

How to search PubMed: The easy way

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Texas Tech University Health Sciences Center Library

Lubbock, Texas

2019

Searching scares students!

- And Faculty too
 - It's too complex
 - I get too much stuff
 - Google is easier
 - What have you heard the students say...?
-
- NOTE: This presentation was originally designed for students to use on their own...(so more text than I would have if presenting in person to a group or in a 1-on-1 session).

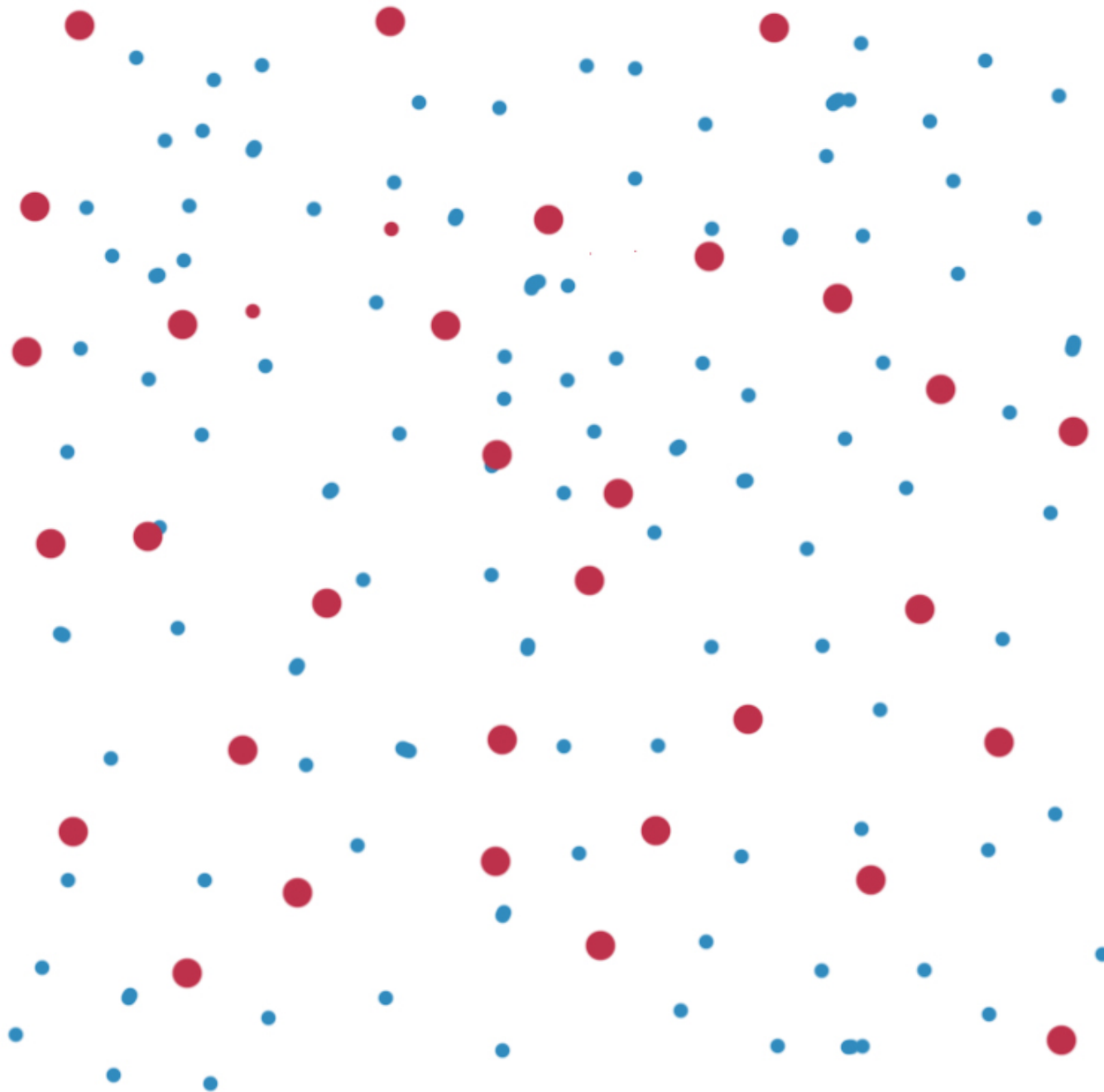
Searching by the Pics!

Reduces fear!!!

Easy translatable methodologies...

Instructions

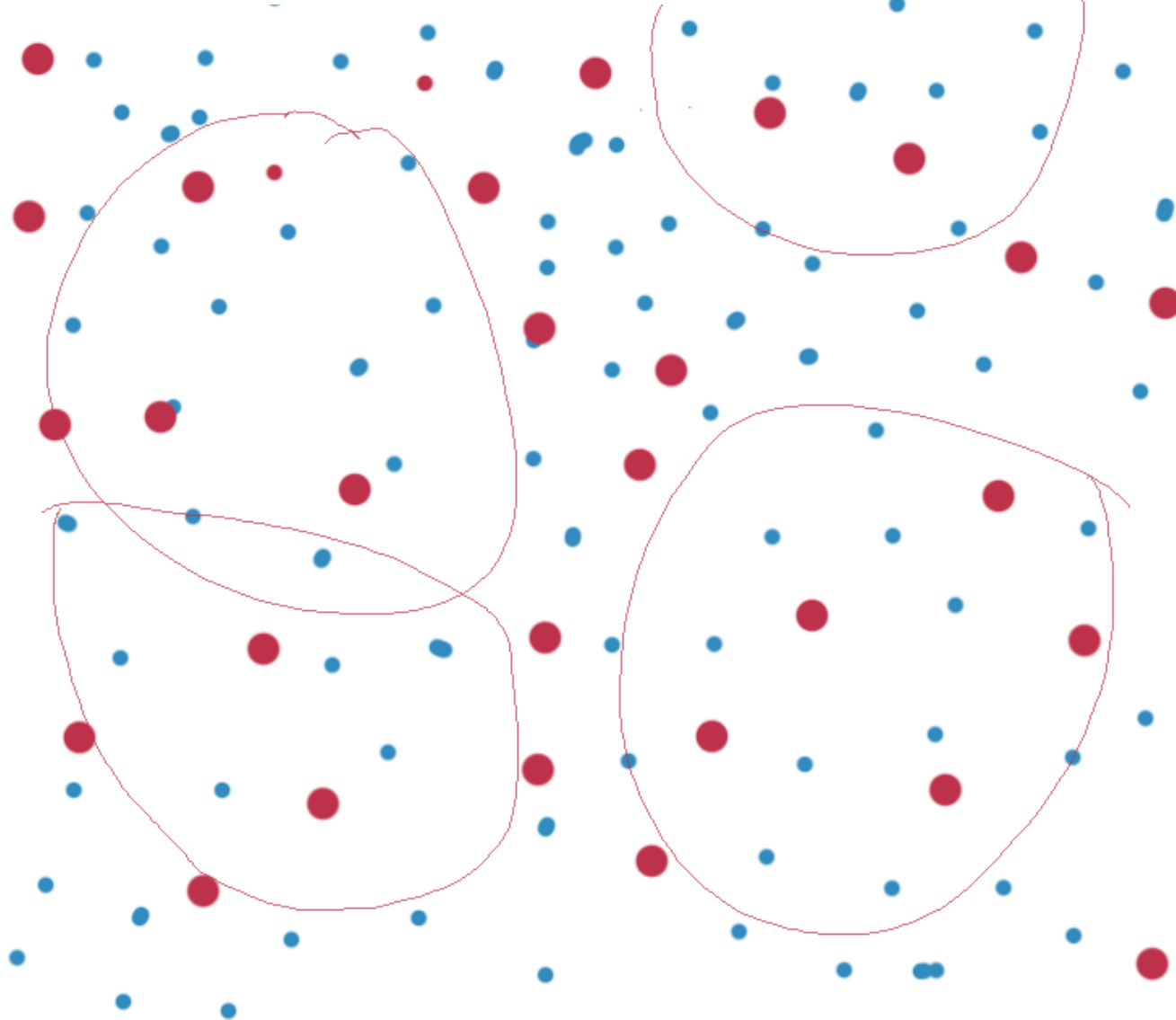
- Get a piece of paper and something to write with...
—preferably colored markers.
- Then cover the sheet of paper with dots all over it.



This is an example of:
“All the published
literature” each dot
represents a journal...

We can't see all of
them but I'm sure you
get the idea...there
are lots, and lots of
journals and lots, and
lots of published
articles within these
journals.

Different Databases = Different Journals



Databases index journal articles so that the articles can be located.

Some journals are unique and these articles are indexed only in one database like the ones on the right side.

Other journals may be indexed in more than one database as in the overlapping circles on the left side.

Indexing refers to the organization of data according to a specific plan...like “tags” in Twitter.

PubMed

For this exercise we will be looking at just one database, PubMed. Just one of the circles on the previous screen.

As of 2019, it contained over 29 million articles going back to the 1960s.

The next slide begins the exercise that you will be doing today with the dots on your paper and following along on the database screens.

Label items as we go thru this exercise!

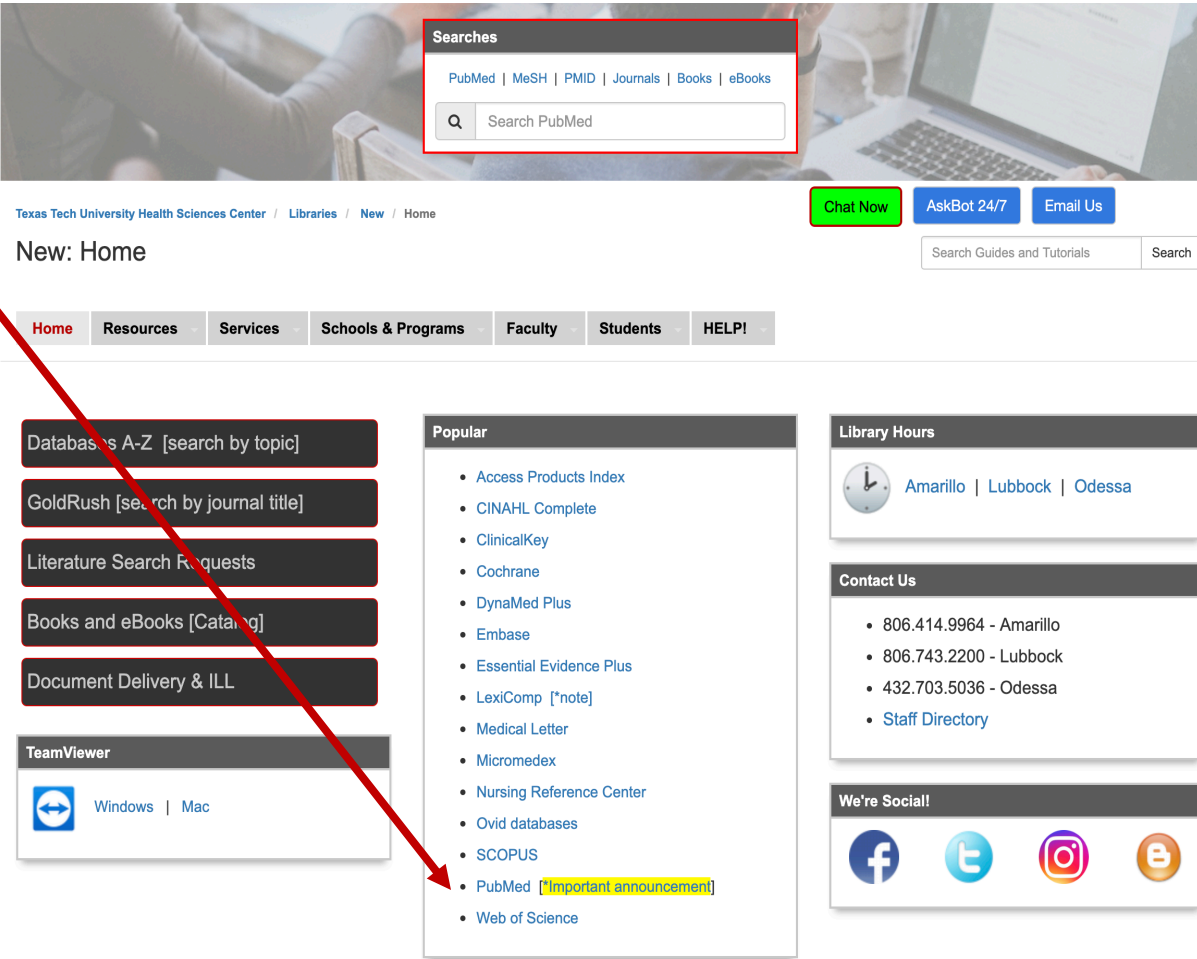
The library homepage is at:
<http://www.ttuhscl.edu/libraries>

Click on the PubMed Icon:



This will bring you to the PubMed Homepage.

For full functionality of the databases, including access to full-text, one must start at the library home page.



The screenshot shows the Texas Tech University Health Sciences Center Libraries homepage. At the top, there is a 'Searches' section with links to PubMed, MeSH, PMID, Journals, Books, and eBooks, and a search bar. Below this is a navigation bar with links to Home, Resources, Services, Schools & Programs, Faculty, Students, and HELP!. The main content area features a 'Databases A-Z' section with links to GoldRush, Literature Search Requests, Books and eBooks, and Document Delivery & ILL. A 'TeamViewer' section is also present. The 'Popular' section lists various databases, including PubMed, which is highlighted with a red box and a yellow background. The 'Library Hours' section shows hours for Amarillo, Lubbock, and Odessa. The 'Contact Us' section provides phone numbers and a staff directory. The 'We're Social!' section includes social media icons for Facebook, Twitter, Instagram, and YouTube.

Searches

PubMed | MeSH | PMID | Journals | Books | eBooks

Search PubMed

Texas Tech University Health Sciences Center / Libraries / New / Home

Chat Now AskBot 24/7 Email Us

Search Guides and Tutorials Search

New: Home

Home Resources Services Schools & Programs Faculty Students HELP!

Databases A-Z [search by topic]

GoldRush [search by journal title]

Literature Search Requests

Books and eBooks [Catalog]

Document Delivery & ILL

TeamViewer

Windows | Mac

Popular

- Access Products Index
- CINAHL Complete
- ClinicalKey
- Cochrane
- DynaMed Plus
- Embase
- Essential Evidence Plus
- LexiComp [*note]
- Medical Letter
- Micromedex
- Nursing Reference Center
- Ovid databases
- SCOPUS
- PubMed [*Important announcement]
- Web of Science

Library Hours

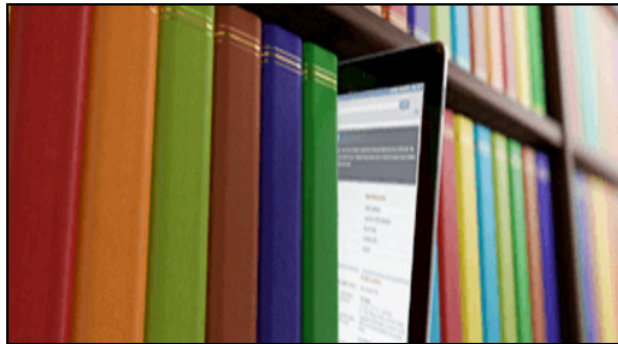
Amarillo | Lubbock | Odessa

Contact Us

- 806.414.9964 - Amarillo
- 806.743.2200 - Lubbock
- 432.703.5036 - Odessa
- Staff Directory

We're Social!

Facebook Twitter Instagram YouTube



PubMed

PubMed comprises more than 27 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

Using PubMed

[PubMed Quick Start Guide](#)

[Full Text Articles](#)

[PubMed FAQs](#)

[PubMed Tutorials](#)

[New and Noteworthy](#)

PubMed Tools

[PubMed Mobile](#)

[Single Citation Matcher](#)

[Batch Citation Matcher](#)

[Clinical Queries](#)

[Topic-Specific Queries](#)

More Resources

[MeSH Database](#)

[Journals in NCBI Databases](#)

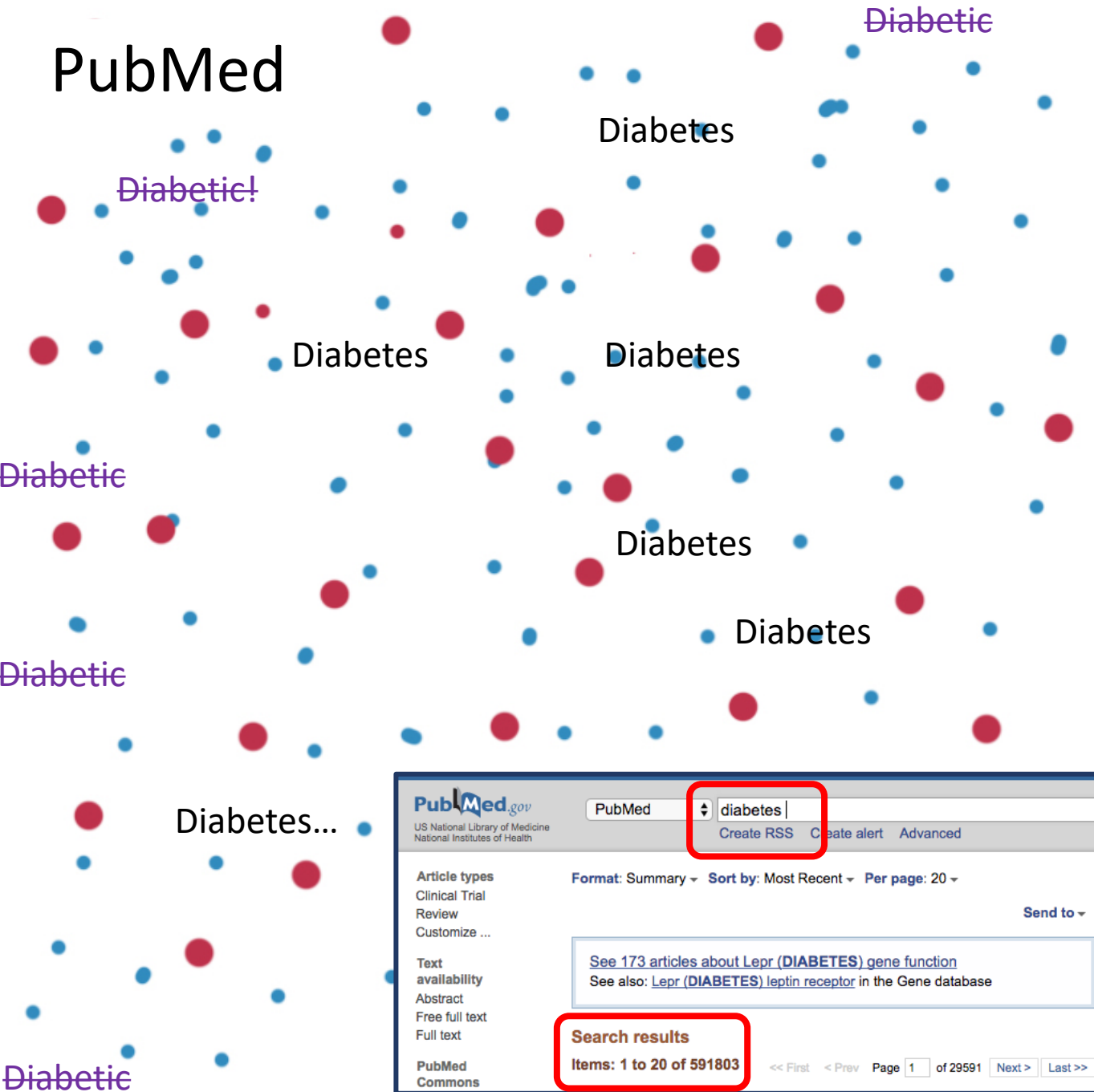
[Clinical Trials](#)

[E-Utilities \(API\)](#)

[LinkOut](#)

- 1) In the search box type in the “combination of letters” that create: **diabetes**
- 2) The database doesn’t recognize “words” but just the “combination of symbols.”
- 3) Let’s see how PubMed interprets this request for articles on the next screen.

PubMed



The database searches for this “combination of symbols” anywhere in the electronic record, including in the journal title, the article title, the author’s name, also in the abstract...

Will it locate DIABETIC using this search?

NO! it only looks for the “combination of letters”...not the meaning of the word.

NOTE: Your numbers will be different because the database is updated daily.

PubMed.gov
US National Library of Medicine
National Institutes of Health

PubMed

diabetes

Create RSS Create alert Advanced

Article types
Clinical Trial
Review
Customize ...

Text availability
Abstract
Free full text
Full text

PubMed Commons

Format: Summary Sort by: Most Recent Per page: 20

Send to

See 173 articles about Lepr (DIABETES) gene function
See also: Lepr (DIABETES) leptin receptor in the Gene database

Search results
Items: 1 to 20 of 591803

<< First < Prev Page 1 of 29591 Next > Last >>



PubMed

PubMed comprises more than 29 million citations for biomedical literature from MEDLINE, life science journals, and online books. Citations may include links to full-text content from PubMed Central and publisher web sites.

Using PubMed

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[Full Text Articles](#)

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[New and Noteworthy](#)

PubMed Tools

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[Single Citation Matcher](#)

[Batch Citation Matcher](#)

[Clinical Queries](#)

[Topic-Specific Queries](#)

More Resources

[MeSH Database](#)

[Journals in NCBI Databases](#)

[Clinical Trials](#)

[E-Utilities \(API\)](#)

[LinkOut](#)

- 1) Return to the PubMed homepage, click on “MeSH Database.”
- 2) **MeSH** stands for Medical Subject Headings. One can search by **CONCEPT** when using MeSH.



MeSH

MeSH (Medical Subject Headings) is the NLM controlled vocabulary thesaurus used for indexing articles for PubMed.

Using MeSH

[Help](#)

[Tutorials](#)

More Resources

[E-Utilities](#)

[NLM MeSH Homepage](#)

- 1) On the MeSH page, type “diabetes” into the search box.
- 2) MeSH is the controlled vocabulary used for indexing articles.
- 3) Click on “Search.” If there is a match, it will show up on the next screen.

Summary ▾ 20 per page ▾

Send to: ▾

Search results

Items 1 to 20 of 100

<< First < Prev Page 1 of 5 Next > Last >>

☐ [Diabetes Mellitus](#)

1. A heterogeneous group of disorders characterized by HYPERGLYCEMIA and GLUCOSE INTOLERANCE.

☐ [Diabetes Insipidus](#)

2. A disease that is characterized by frequent urination, excretion of large amounts of dilute URINE, and excessive THIRST. Etiologies of **diabetes insipidus** include deficiency of antidiuretic hormone (also known as ADH or VASOPRESSIN) secreted by the NEUROHYPOPHYSIS, impaired KIDNEY response to ADH, and impaired hypothalamic regulation of thirst.

☐ [National Institute of Diabetes and Digestive and Kidney Diseases \(U.S.\)](#)

3. Component of the NATIONAL INSTITUTES OF HEALTH. It conducts and supports

PubMed Search Builder

Add to search builder

AND ▾

Search PubMed

Find related data

Database:

Select ▾

Find items

- 1) There are 100 possible matches.
- 2) Select the appropriate one. Click on the word(s) themselves.
- 3) The next screen helps to refine your topic, if needed.

Diabetes Mellitus

A heterogeneous group of disorders characterized by HYPERGLYCEMIA and GLUCOSE INTOLERANCE.

PubMed search builder options

Subheadings:

- ☐ analysis
- ☐ anatomy and histology
- ☐ blood
- ☐ blood supply
- ☐ cerebrospinal fluid
- ☐ chemical synthesis
- ☐ chemically induced
- ☐ chemistry
- ☐ classification
- ☐ complications
- ☐ congenital
- ☐ diagnosis
- ☐ diagnostic imaging
- ☐ diet therapy
- ☐ drug therapy
- ☐ economics
- ☐ education
- ☐ embryology
- ☐ enzymology
- ☐ epidemiology
- ☐ ethnology
- ☐ etiology
- ☐ genetics
- ☐ history
- ☐ immunology
- ☐ metabolism
- ☐ microbiology
- ☐ mortality
- ☐ nursing
- ☐ organization and administration
- ☐ parasitology
- ☐ pathology
- ☐ physiology
- ☐ physiopathology
- ☐ prevention and control
- ☐ psychology
- ☐ radiotherapy
- ☐ rehabilitation
- ☐ statistics and numerical data
- ☐ surgery
- ☐ therapy
- ☐ transmission
- ☐ urine
- ☐ veterinary
- ☐ virology
- ☐ Restrict to MeSH Major Topic.
- ☐ Do not include MeSH terms found below this term in the MeSH hierarchy.

Tree Number(s): C18.452.394.750, C19.246
MeSH Unique ID: D003920
See Also:

- [Diabetes Insipidus](#)
- [Diet, Diabetic](#)
- [Prediabetic State](#)
- [Scleredema Adultorum](#)
- [Glycosylation End Products, Advanced](#)
- [Glucose Intolerance](#)
- [Gastroparesis](#)

All MeSH Categories

Diseases Category

Nutritional and Metabolic Diseases

Metabolic Diseases

Glucose Metabolism Disorders

Diabetes Mellitus

[Diabetes Mellitus, Experimental](#)

[Diabetes Mellitus, Type 1](#)

[Wolfram Syndrome](#)

[Diabetes Mellitus, Type 2](#)

[Diabetes Mellitus, Lipomatrophic](#)

[Diabetes, Gestational](#)

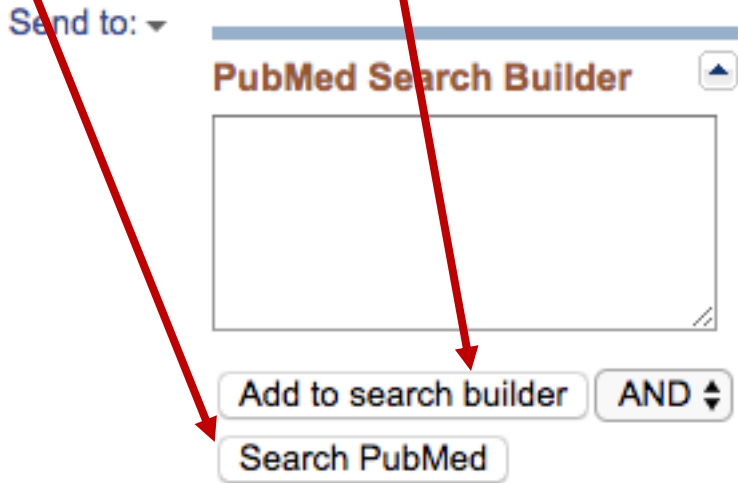
[Diabetic Ketoacidosis](#)

[Donohue Syndrome](#)

[Latent Autoimmune Diabetes in Adults](#)

[Prediabetic State](#)

If you want EVERYTHING about your subject all you have to do is :
“Add to search Builder” then
“Search PubMed”



The next screen shows our actions on the dots page.

PubMed — MeSH (Medical Subject Headings)

Using PubMed's-MeSH feature, we will only search for those articles that are tagged or indexed for our subject term, **ONLY** inside of the MeSH circle.

The numbers in the screen shot show how many articles are within the entire MeSH circle/pie.

Label your large circle:
MeSH.



PubMed.gov
US National Library of Medicine
National Institutes of Health

PubMed

"Diabetes Mellitus"[Mesh]

Create RSS Create alert Advanced

Article types
Clinical Trial
Review
Customize ...

Text availability
Abstract

Format: Summary ▾ Sort by: Most Recent ▾ Per page: 20 ▾

Search results
Items: 1 to 20 of 364563

< First < Prev Page 1 of 18229

Diabetes Mellitus

A heterogeneous group of disorders characterized by HYPERGLYCEMIA and GLUCOSE INTOLERANCE.

PubMed search builder options

[Subheadings:](#)

- ☐ analysis
- ☐ anatomy and histology

- ☐ economics
- ☐ education
- ☐ embryology

- ☐ parasitology
- ☐ pathology
- ☐ physiology

Send to: ▼

PubMed Search Builder



What do Adjectives do?

- [Diabetes Mellitus, Type 2](#)
- [Diabetes Mellitus, Lipomatrophic](#)
- [Diabetes, Gestational](#)
- [Diabetic Ketoacidosis](#)
- [Donohue Syndrome](#)
- [Latent Autoimmune Diabetes in Adults](#)
- [Solidus Syndrome](#)

PubMed — Subheading/adjective

Choosing one subheading:

Diabetes Mellitus

A heterogeneous group of disorders characterized by HYPERGLYCEMIA and GLUCOSE INTOLERANCE.

PubMed search builder options

Subheadings:

- | | | |
|--|---|--|
| <input type="checkbox"/> analysis | <input type="checkbox"/> economics | <input type="checkbox"/> parasitology |
| <input type="checkbox"/> anatomy and histology | <input type="checkbox"/> education | <input type="checkbox"/> pathology |
| <input type="checkbox"/> blood | <input type="checkbox"/> embryology | <input type="checkbox"/> physiology |
| <input type="checkbox"/> blood supply | <input type="checkbox"/> enzymology | <input type="checkbox"/> physiopathology |
| <input type="checkbox"/> cerebrospinal fluid | <input type="checkbox"/> epidemiology | <input checked="" type="checkbox"/> prevention and control |
| <input type="checkbox"/> chemical synthesis | <input type="checkbox"/> ethnology | <input type="checkbox"/> psychology |
| <input type="checkbox"/> chemically induced | <input type="checkbox"/> etiology | <input type="checkbox"/> radiotherapy |
| <input type="checkbox"/> chemistry | <input type="checkbox"/> genetics | <input type="checkbox"/> rehabilitation |
| <input type="checkbox"/> classification | <input type="checkbox"/> history | <input type="checkbox"/> statistics and |
| <input type="checkbox"/> complications | <input type="checkbox"/> immunology | numerical data |
| <input type="checkbox"/> congenital | <input type="checkbox"/> metabolism | <input type="checkbox"/> surgery |
| <input type="checkbox"/> diagnosis | <input type="checkbox"/> microbiology | <input type="checkbox"/> therapy |
| <input type="checkbox"/> diagnostic imaging | <input type="checkbox"/> mortality | <input type="checkbox"/> transmission |
| <input type="checkbox"/> diet therapy | <input type="checkbox"/> nursing | <input type="checkbox"/> urine |
| <input type="checkbox"/> drug therapy | <input type="checkbox"/> organization and | <input type="checkbox"/> veterinary |
| | administration | <input type="checkbox"/> virology |

☐ Restrict to MeSH Major Topic.

☐ Do not include MeSH terms found below this term in the MeSH hierarchy.

PubMed — Inner Circle = Major

Diabetes Mellitus

A heterogeneous group of disorders characterized by HYPERGLYCEMIA

PubMed search builder options

Subheadings:

- | | | |
|--|---|---|
| <input type="checkbox"/> analysis | <input type="checkbox"/> economics | |
| <input type="checkbox"/> anatomy and histology | <input type="checkbox"/> education | |
| <input type="checkbox"/> blood | <input type="checkbox"/> embryology | |
| <input type="checkbox"/> blood supply | <input type="checkbox"/> enzymology | |
| <input type="checkbox"/> cerebrospinal fluid | <input type="checkbox"/> epidemiology | |
| <input type="checkbox"/> chemical synthesis | <input type="checkbox"/> ethnology | |
| <input type="checkbox"/> chemically induced | <input type="checkbox"/> etiology | |
| <input type="checkbox"/> chemistry | <input type="checkbox"/> genetics | <input type="checkbox"/> rehabilitation |
| <input type="checkbox"/> classification | <input type="checkbox"/> history | <input type="checkbox"/> statistics and |
| <input type="checkbox"/> complications | <input type="checkbox"/> immunology | numerical data |
| <input type="checkbox"/> congenital | <input type="checkbox"/> metabolism | <input type="checkbox"/> surgery |
| <input type="checkbox"/> diagnosis | <input type="checkbox"/> microbiology | <input type="checkbox"/> therapy |
| <input type="checkbox"/> diagnostic imaging | <input type="checkbox"/> mortality | <input type="checkbox"/> transmission |
| <input type="checkbox"/> diet therapy | <input type="checkbox"/> nursing | <input type="checkbox"/> urine |
| <input type="checkbox"/> drug therapy | <input type="checkbox"/> organization and | <input type="checkbox"/> veterinary |
| | administration | <input type="checkbox"/> virology |

☒ Restrict to MeSH Major Topic.

☐ Do not include MeSH terms found below this term in the MeSH hierarchy.

If you want to **focus** your topic...then select the option “Restrict to MeSH Major Topic.”

As when horses wear blinders to help them focus on the race and not be distracted...

This option will search only the narrower more focused articles found in the inner circle.

Diabetes Mellitus

A heterogeneous group of disorders characterized by HYPERGLYCEMIA and GLUCOSE INTOLERANCE.

PubMed search builder options

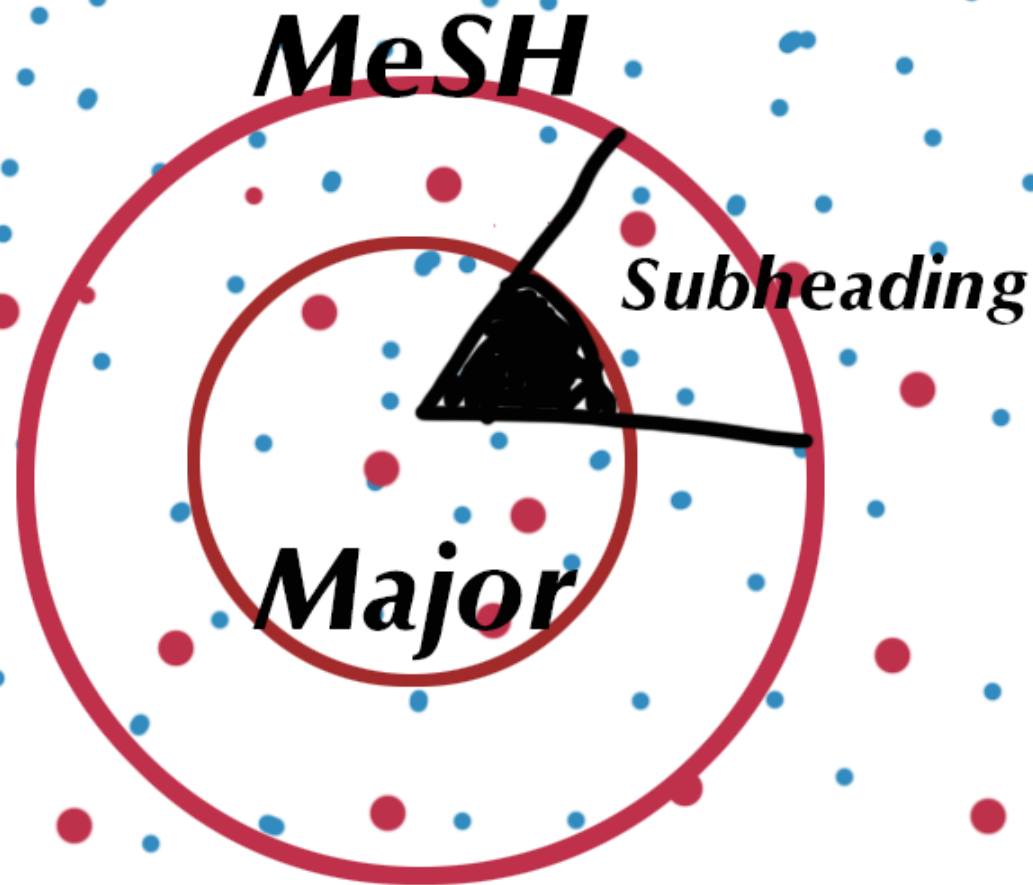
Subheadings:

Here we have selected: a “subheading” and a “Major focus”

- ☐ analysis
- ☐ anatomy and histology
- ☐ blood
- ☐ blood supply
- ☐ cerebrospinal fluid
- ☐ chemical synthesis
- ☐ chemically induced
- ☐ chemistry
- ☐ classification
- ☐ complications
- ☐ congenital
- ☐ diagnosis
- ☐ diagnostic imaging
- ☐ diet therapy
- ☐ drug therapy
- ☐ economics
- ☐ education
- ☐ embryology
- ☐ enzymology
- ☐ epidemiology
- ☐ ethnology
- ☐ etiology
- ☐ genetics
- ☐ history
- ☐ immunology
- ☐ metabolism
- ☐ microbiology
- ☐ mortality
- ☐ nursing
- ☐ organization and administration
- ☐ parasitology
- ☐ pathology
- ☐ physiology
- ☐ physiopathology
- ☒ prevention and control
- ☐ psychology
- ☐ radiotherapy
- ☐ rehabilitation
- ☐ statistics and numerical data
- ☐ surgery
- ☐ therapy
- ☐ transmission
- ☐ urine
- ☐ veterinary
- ☐ virology

- ☒ Restrict to MeSH Major Topic.
- ☐ Do not include MeSH terms found below this term in the MeSH hierarchy.

As you see here, now
we are only
retrieving the
“Tip of the Iceberg”
(black triangle)!



“ADVANCED”
This your locker
that holds everything

Here you see the numbers for
each section. This is still too many.

| | | |
|---|------------------------|-----------------|
| Search "Diabetes Mellitus/prevention and control"[Majr] | 13179 | Tip of iceberg |
| Search "Diabetes Mellitus/prevention and control"[Mesh] | 22400 | Entire triangle |
| Search "Diabetes Mellitus"[Majr] | 291502 | Inner Circle |
| Search "Diabetes Mellitus"[Mesh] | 364563 | Big circle |
| Search diabetes | 591803 | All the dots |

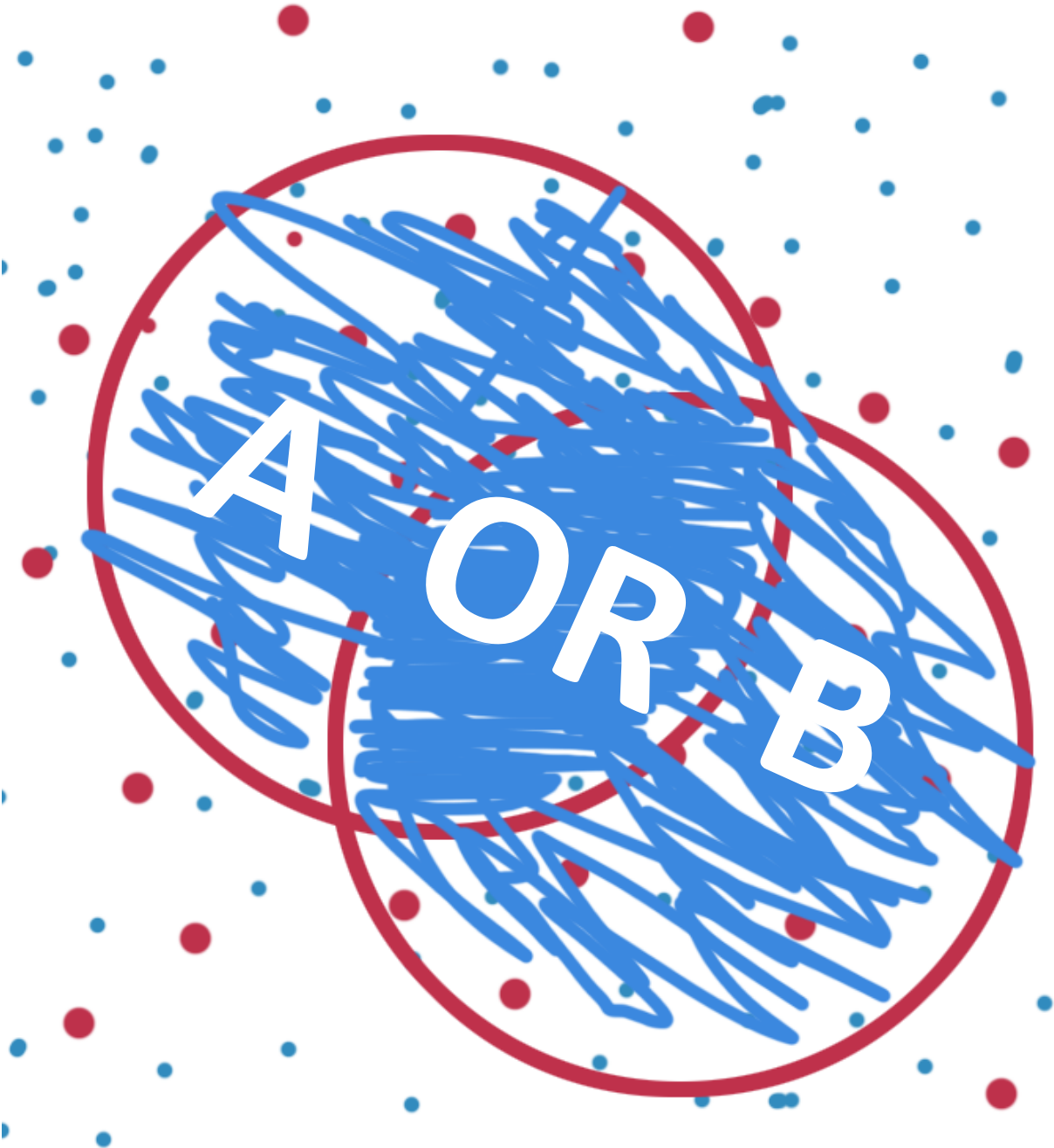
Once you have strategized your concept then you can figure out ways to narrow your topic down.

Typically you may want to combine two or more concepts...

How you combine your concepts will make a difference in results!

OR

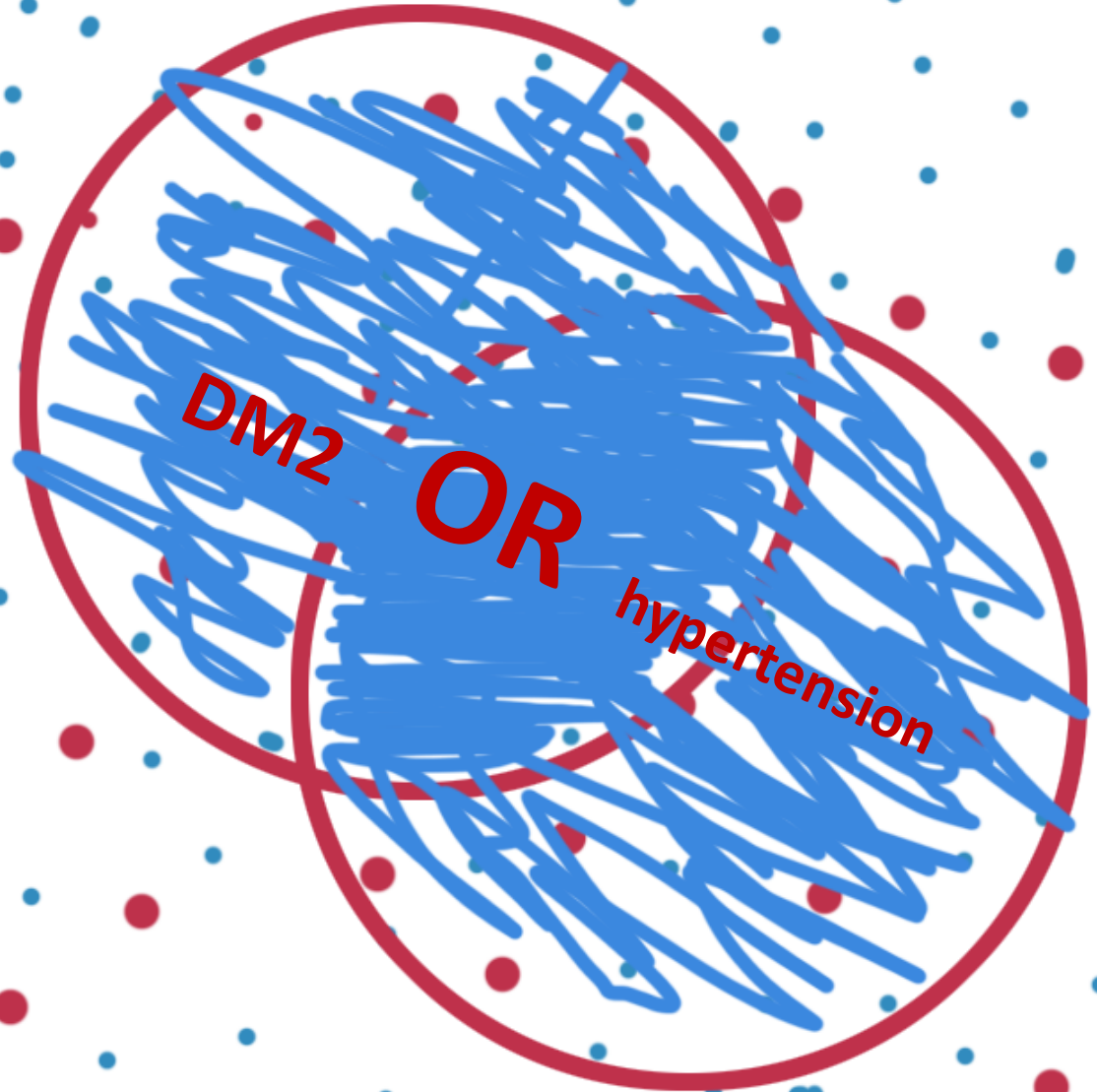
Using the “OR” sometimes called “Boolean OR”...you will get ALL variations of your concepts, those that deal with one concept “OR” the other “OR” even those citations that have both concepts in the same article. For example, if you had concept A as well as concept B...having overlapping circles...the searcher would get the citations that have “A” concept “OR” the ones that have “B” concept and even those articles that have both “A” and “B” in the intersection of the circles.



OR

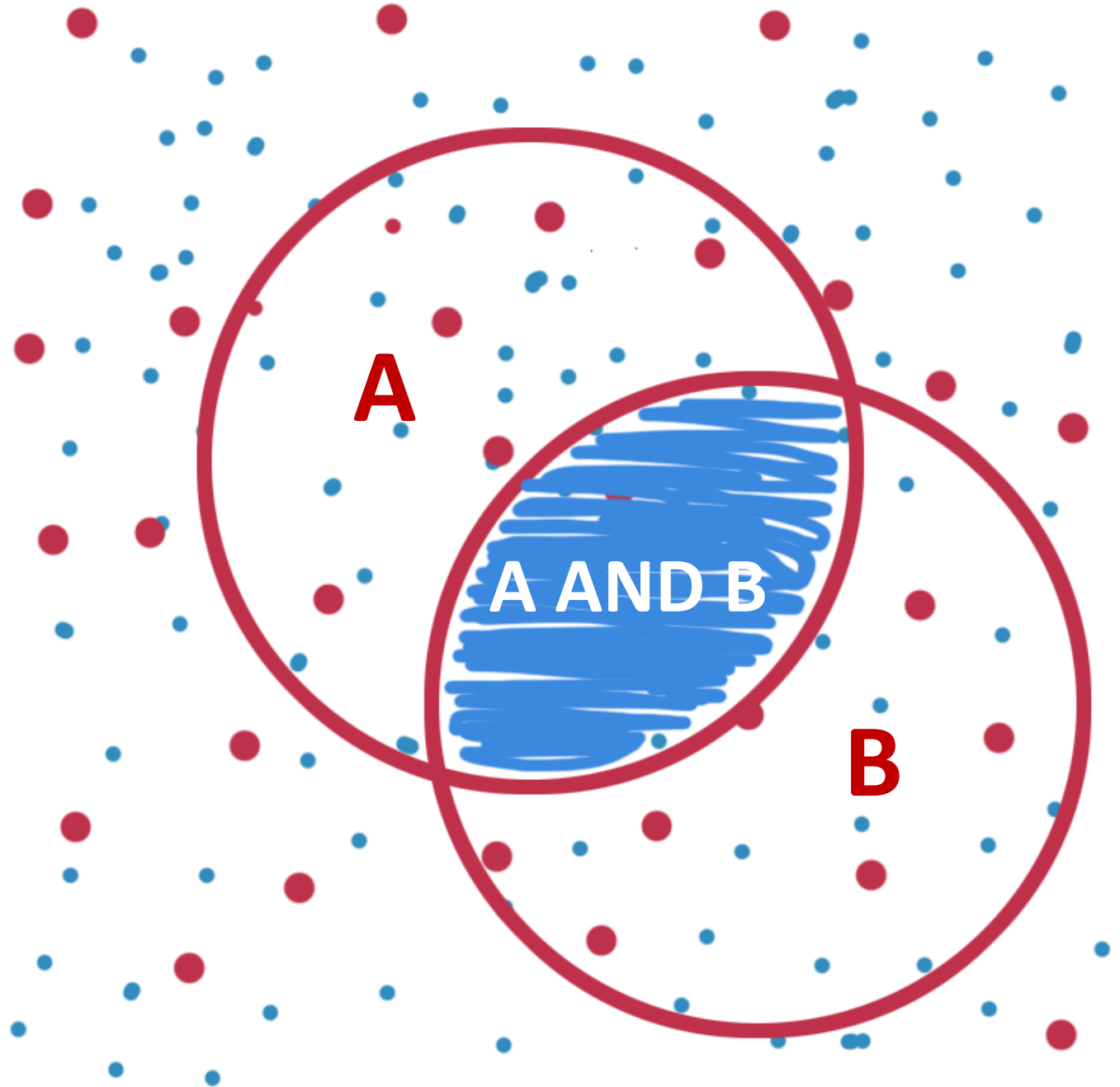
You might be interested in
“Either” “Diabetes Mellitus”
OR “Hypertension”

You could then “AND” these
articles to narrow down to
just the intersection as shown
in the next slide.



AND

AND will only give you the articles that appear in the overlap area.
“A AND B”

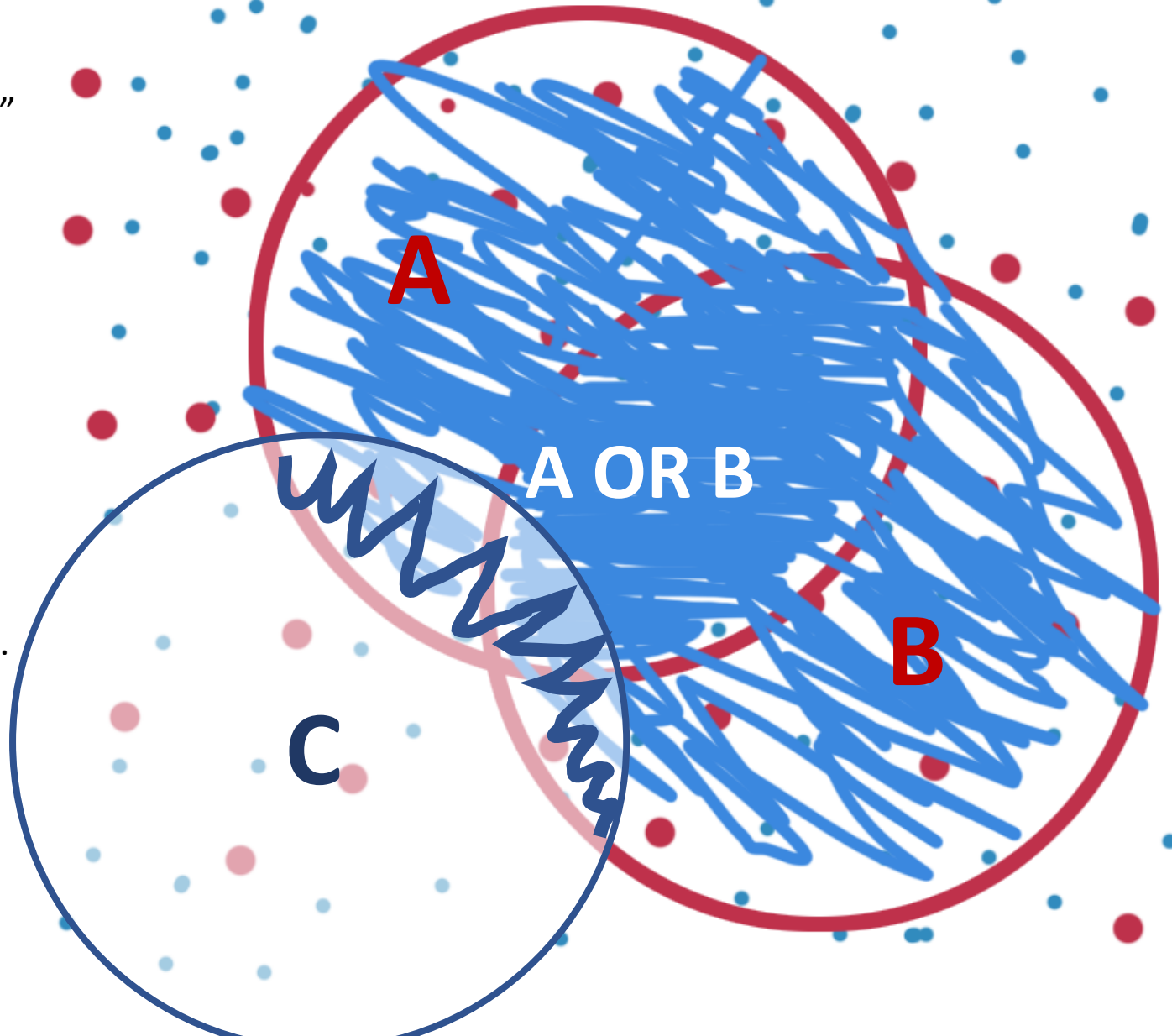


USING “OR” WITH “AND”

So we have “A” OR “B”
and now we want to
add a concept: e.g.
Hispanic Americans
(the Blue circle).

“A” OR “B” AND “C”
Hispanic Americans

We would retrieve
ONLY these articles in
dark blue zig zag area.



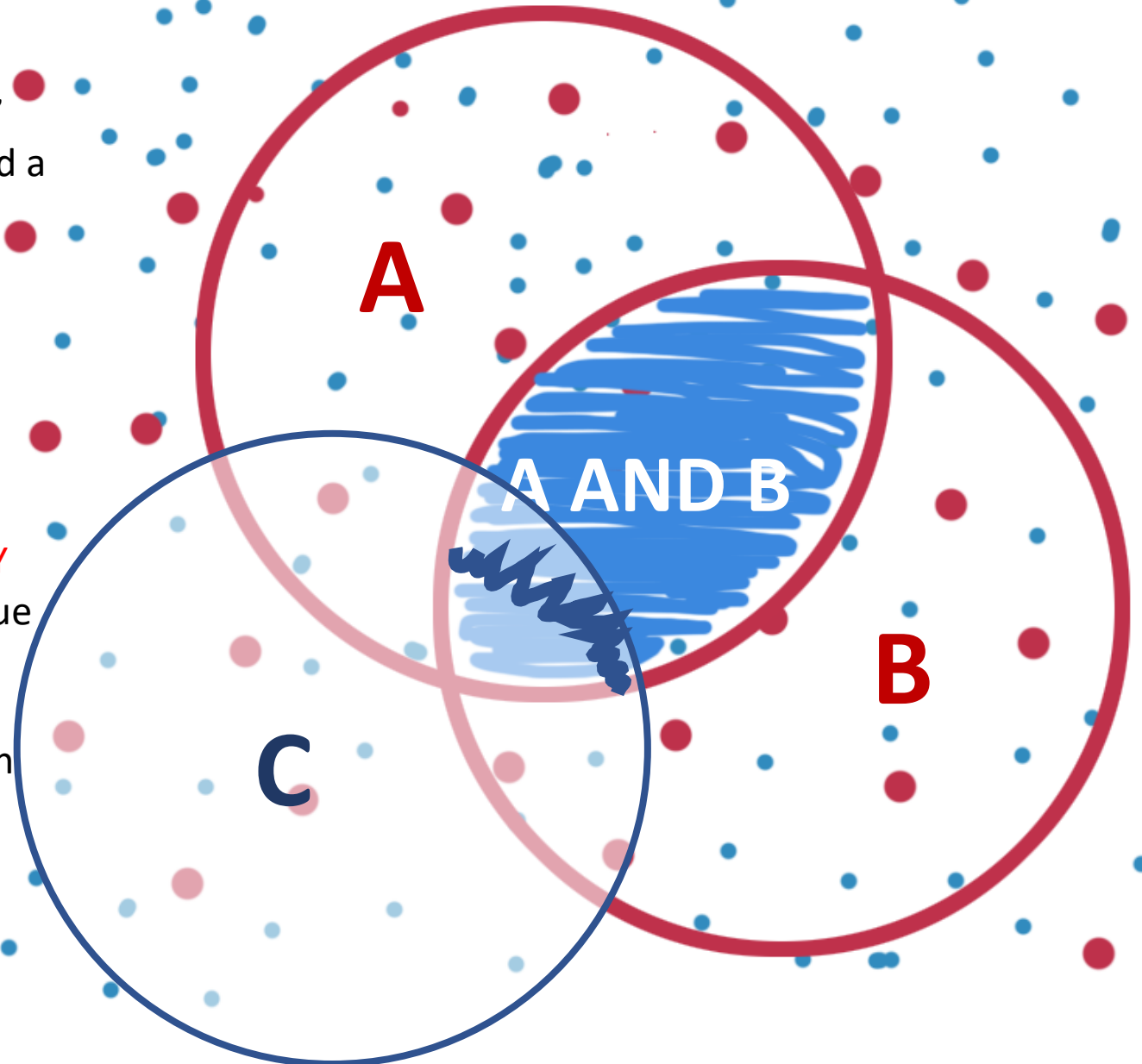
USING “AND” WITH “AND”

So we have “A” AND “B”
and now we want to add a
concept:
e.g. Hispanic Americans
(the Blue circle).

“A” AND “B” AND “C”
Hispanic Americans

We would retrieve **ONLY**
these articles in dark blue
zig zag area.

This is a way that we can
be more specific in our
research.



NOW....

What is the MOST important part of research...?

1) What is your **question**?

This part of the exercise helps the student define WHAT they are looking for...

Word/Abstracting Exercise.

Students will often turn to GOOGLE to do their research...

here are some advanced techniques to use with the
GOOGLE located article

Evaluation of Preeclampsia Results after Use of Metformin in Gestation: Systematic Review and Meta-analysis.

Nascimento IBD¹, Dienstmann G¹, de Souza MLR¹, Fleig R¹, Hoffmann CBPC¹, Silva JC¹.

Author information

Abstract in [English](#), [Portuguese](#)

OBJECTIVE: Does the use of metformin have an influence on the outcomes of preeclampsia (PE)?

SOURCES OF DATA: The descriptors *pregnancy*, *metformin*, *treatment*, and *preeclampsia* associated with the Boolean operators *AND* and *OR* were found in the MEDLINE, LILACS, Embase and Cochrane databases. A flowchart with exclusion criteria and inclusion strategy using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol, and eligibility criteria was used. Data were extracted regarding the type of study, the applied dosage, treatment time, segment, bias risks, and the Patient, Intervention, Comparison and Outcome (PICO) strategy to identify the quality of the study.

SELECTION OF STUDIES: Total number of journals in the initial search (*n* = 824); exclusions from repeated articles on different search engines (*n* = 253); exclusions after reading the titles, when the title had no correlations with the proposed theme (*n* = 164); exclusions due to incompatibility with the criteria established in the methodological analysis (*n* = 185), exclusion of articles with lower correlation with the objective of the present study (*n* = 187); and final bibliographic selection (*n* = 35).

DATA COLLECTION: At first, a systematic review of the literature was performed. Subsequently, from the main selection, randomized and non-randomized trials with metformin that presented their results in absolute and relative numbers of PE outcomes were selected. The variables were treated statistically in the meta-analysis with the Review Manager software (RevMan), version 5.3. Copenhagen: Nordic Cochrane Centre, The Cochrane Collaboration. Denmark in the Hovedistaden region.

SYNTHESIS OF DATA: The study showed that metmorfin presented greater preventive effects for pregnancy-induced hypertension and was less effective for PE.

CONCLUSION: Metformin may gain place in preventive treatments for PE, once the dosages, the gestational age, and treatment time are particularly evaluated. A methodological strategy with an improved perspective of innovative and/or carefully progressive dosages during pregnancy to avoid side effects and the possibility of maternal-fetal risks is suggested.

Thieme Revinter Publicações Ltda Rio de Janeiro, Brazil.

[Rev Bras Ginecol Obstet](#). 2018 Nov;40(11):713-721. doi: 10.1055/s-0038-1675214. Epub 2018 Nov 6.

Evaluation of Preeclampsia Results after Use of Metformin in Gestation: Systematic Review and Meta-analysis.

[Nascimento IBD¹](#), [Dienstmann G¹](#), [de Souza MLR¹](#), [Fleig R¹](#), [Hoffmann CBPC¹](#), [Silva JC¹](#).

[Author information](#)

Abstract

in [English](#), [Portuguese](#)

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•[Format: Abstract](#)

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Thieme Revinter Publicações Ltda Rio de Janeiro, Brazil.

PMID: 30399639 DOI: [10.1055/s-0038-1675214](#)

List Important words/concepts that are found in abstract:—

1. metformin
2. pregnancy...
- 3.
- 4.

Now copy your abstract...and take it into...

Any one of the many WORD CLOUD software programs!



<https://www.wordclouds.com/>

So how do you use these skills?

Using our new found knowledge...the student suggests a topic for us to research...

The librarian assists in formulating and answerable question...based on idea

What other information does the article help you with?

Lists of indexing terms (MeSH) terms that can be used for refining your search!

The rationale, design, and baseline characteristics of PREVENT-DM: A community-based comparative effectiveness trial of lifestyle intervention and metformin among Latinas with prediabetes.

Perez A¹, Alos VA¹, Scanlan A², Maia CM¹, Davey A³, Whitaker RC⁴, Foster GD⁵, Ackermann RT⁶, O'Brien MJ⁷.

Author information

Abstract

Promotora Effectiveness Versus Metformin Trial (PREVENT-DM) is a randomized comparative effectiveness trial of a lifestyle intervention based on the Diabetes Prevention Program delivered by community health workers (or promotoras), metformin, and standard care. Eligibility criteria are Hispanic ethnicity, female sex, age ≥ 20 years, fluent Spanish-speaking status, BMI ≥ 23 kg/m², and prediabetes. We enrolled 92 participants and randomized them to one of the following three groups: standard care, DPP-based lifestyle intervention, or metformin. The primary outcome of the trial is the 12-month difference in weight between groups. Secondary outcomes include the following cardiometabolic markers: BMI, waist circumference, blood pressure, and fasting plasma glucose, hemoglobin A1C (HbA1c), total cholesterol, triglycerides, LDL cholesterol, HDL cholesterol, and insulin. PREVENT-DM participants are socioeconomically disadvantaged Latinas with a mean annual household income of $\$15,527 \pm 9922$ and educational attainment of 9.7 ± 3.6 years. Eighty-six percent of participants are foreign born, 20% have a prior history of gestational diabetes, and 71% have a first-degree relative with diagnosed diabetes. At baseline, PREVENT-DM participants had a mean age of 45.1 ± 12.5 years, weight of 178.8 ± 39.3 lbs, BMI of 33.3 ± 6.5 kg/m², HbA1c of $5.9 \pm 0.2\%$, and waist circumference of 97.4 ± 11.1 cm. Mean baseline levels of other cardiometabolic markers were normal. The PREVENT-DM study successfully recruited and randomized an understudied population of Latinas with prediabetes. This trial will be the first U.S. study to test the comparative effectiveness of metformin and lifestyle intervention versus standard care among prediabetic adults in a "real-world" setting.

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KEYWORDS: Diabetes prevention; Hispanic Americans; Lifestyle intervention; Metformin; Obesity

PMID: 26597415 PMCID: PMC4674352 DOI: 10.1016/j.cct.2015.10.011

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Click on the MeSH terms which you will find under the full citation of most of your articles. When you click on that it will show you the headings that have been used to tag this article. See the next slide.



Publication types, MeSH terms, Substances, Grant support

Publication types

[Randomized Controlled Trial](#)

[Research Support, N.I.H., Extramural](#)

[Research Support, Non-U.S. Gov't](#)

MeSH terms

[Adult](#)

[Blood Glucose](#)

[Blood Pressure](#)

[Body Mass Index](#)

[Community Health Workers/organization & administration](#)

[Comparative Effectiveness Research](#)

[Diabetes Mellitus, Type 2/prevention & control*](#)

[Diet](#)

[Exercise](#)

[Female](#)

[Health Behavior/ethnology](#)

[Health Promotion/methods*](#)

[Hemoglobin A, Glycosylated](#)

[Hispanic Americans*](#)

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[Hypoglycemic Agents/therapeutic use*](#)

[Life Style](#)

[Lipids/blood](#)

[Metformin/therapeutic use*](#)

[Middle Aged](#)

[Prediabetic State/drug therapy](#)

[Prediabetic State/therapy*](#)

[Research Design](#)

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[Waist Circumferen](#)

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Substances

[Blood Glucose](#)

[Hemoglobin A, Glycosylated](#)

[Hypoglycemic Agents](#)

[Lipids](#)

[Metformin](#)

Here are the MeSH headings for the article that was just located. When you click on a individual heading it will give you a number of options. When you choose the option to “Search in MeSH” you will find more information on the term.

Indexers index to the most specific term, so you may consider choosing this term and “AND”ing with your other subject headings.

Probability

The study of chance processes or the relative frequency characterizing a chance process.
Year introduced: 1968(1964)

PubMed search builder options

Subheadings:

- | | | |
|--|--|--|
| <input type="checkbox"/> classification | <input type="checkbox"/> manpower | <input type="checkbox"/> statistics and numerical data |
| <input type="checkbox"/> economics | <input type="checkbox"/> methods | <input type="checkbox"/> supply and distribution |
| <input type="checkbox"/> ethics | <input type="checkbox"/> organization and administration | <input type="checkbox"/> trends |
| <input type="checkbox"/> history | <input type="checkbox"/> standards | <input type="checkbox"/> utilization |
| <input type="checkbox"/> legislation and jurisprudence | | |

☐ Restrict to MeSH Major Topic.

☐ Do not include MeSH terms found below this term in the MeSH hierarchy.

Tree Number(s): E05.318.740.600, G17.680, N05.715.360.750.625, N06.850.520.830.600

MeSH Unique ID: D011336

Entry Terms:

- Probabilities

All MeSH Categories

Analytical, Diagnostic and Therapeutic Techniques and Equipment Category

Investigative Techniques

Epidemiologic Methods

Statistics as Topic

Probability

Bayes Theorem

Likelihood Functions

Markov Chains

Odds Ratio

Position-Specific Scoring Matrices

Propensity Score

Proportional Hazards Models

Risk

Logistic Models

Protective Factors

Risk Assessment +

Risk Factors

Uncertainty

Now that you know how to manipulate the database...you can locate other MeSH subject headings to assist with your research. Here are a few examples:

Research Design

Control Groups

Double-Blind Method

Early Termination of Clinical Trials

Meta-Analysis as Topic

Network Meta-Analysis

Patient Selection

Random Allocation

Sample Size

Numbers Needed To Treat

Before you begin searching...

Identify...

Identify the **WHY?**

What issue, problem
do you want to solve?

How could you make
someone's life better?

What are you
passionate about that
brought you to this
topic?

PICO Worksheet

Name: _____ Date: _____

PICO Search terms (synonyms, alternate spellings, abbreviations, etc.)

P (patient/population/problem)

What is the primary problem?

I (intervention)

What main intervention are you considering?

C (comparison)

What will the intervention be compared to?

O (outcome)

What are you trying to accomplish?

Type of Question (circle one):

Therapy

Etiology/Harm

Prevention

Diagnosis

Prognosis

Other _____

Question:

Using the above information, write a focused, well-articulated question on the topic/idea that you want to answer.

Play the matching game!

List 5-10 important terms that you think would help you locate articles on your topic.

S_{ubject}

SH
subheading

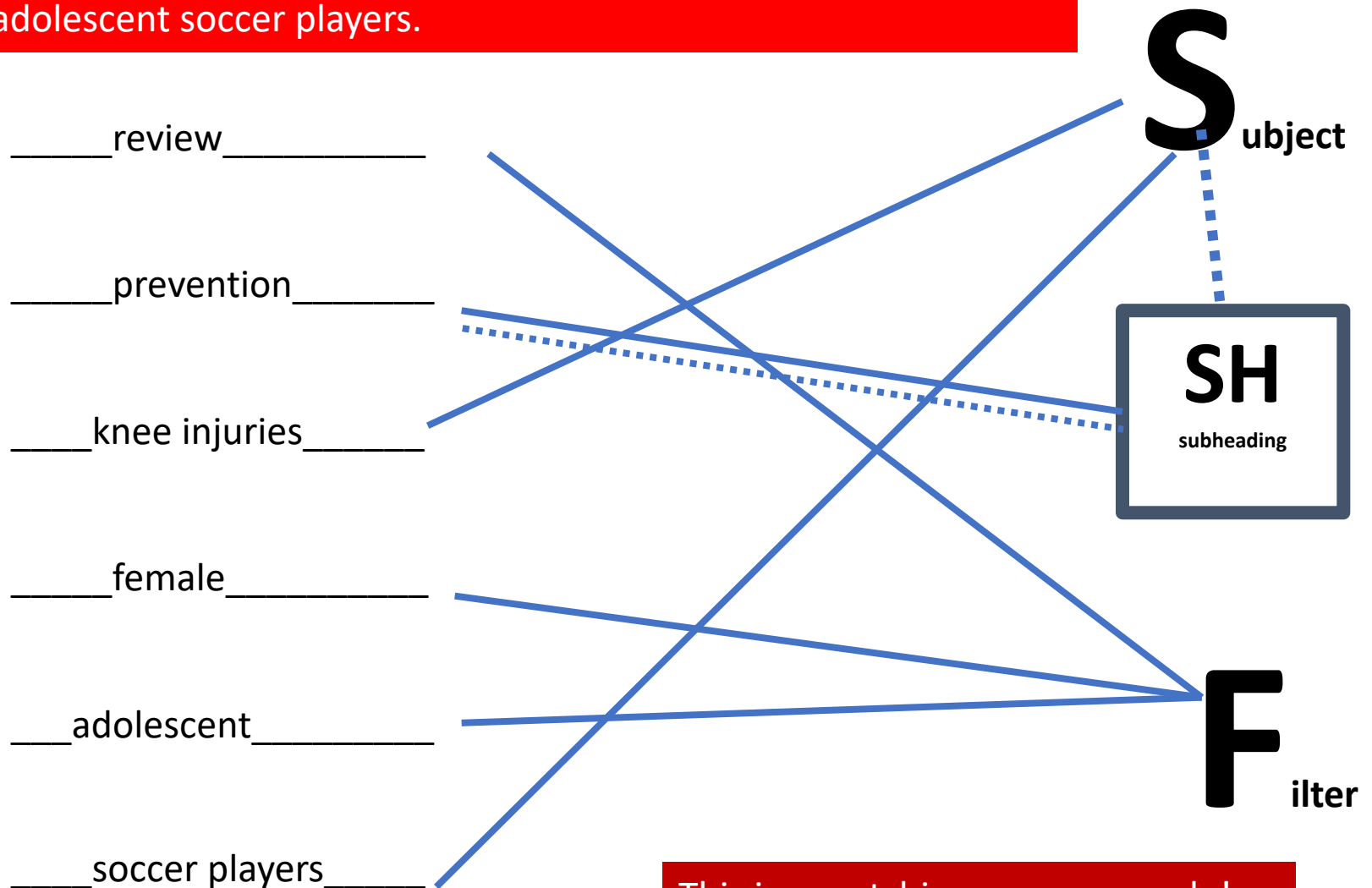
These are pieces that you have to work with.

Subheadings are the modifiers.

F_{ilter}

Filters will be types of articles, or age of patient, language etc.

Review articles on the prevention of knee injuries in female adolescent soccer players.



This is a matching game example!

I always suggest that all the subject terms are searched before any filters are applied.

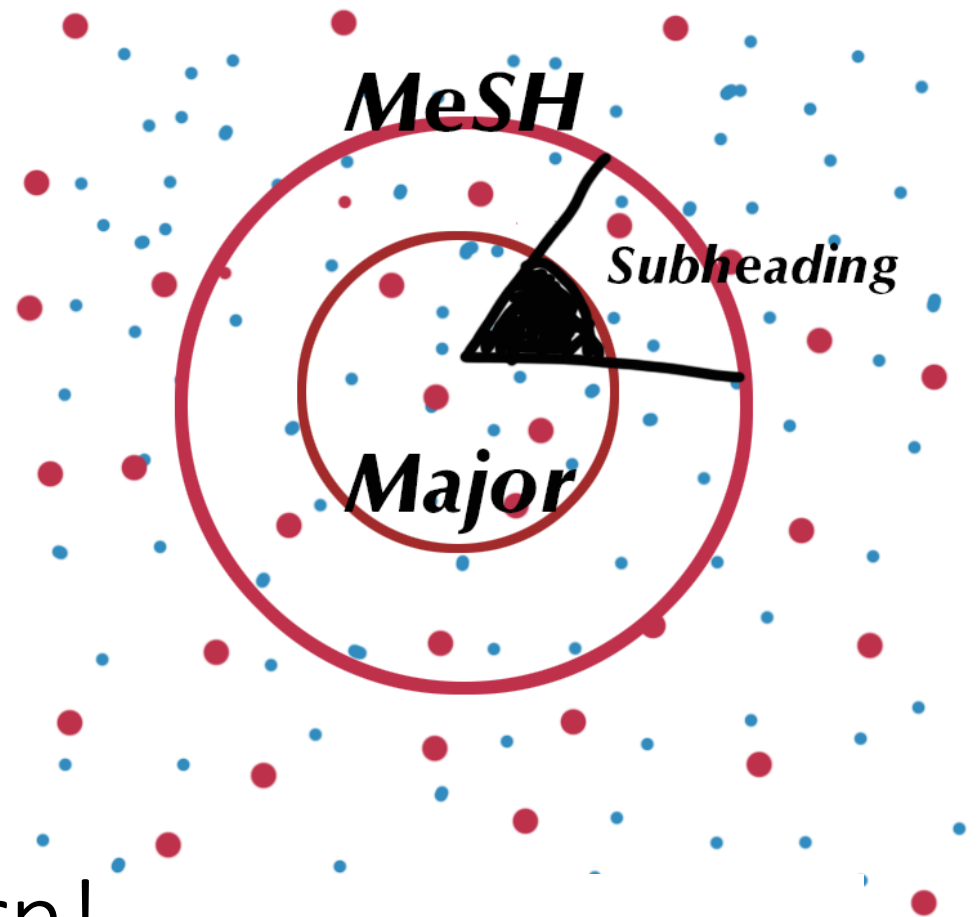
Create this on a sheet of paper

To begin you research enter your terms here...

S_{ubject}

SH
subheading

F_{ilter}



Now...it's your turn!

Take another sheet of paper and create a picture with circles and triangles "AND"s and "OR"s how you would search your topic.

This has been successfully used--

In 1-On-1 person to person demonstrations...with the student then taking the lead on their topic

Large group presentations...

Embedded into a Nursing class curriculum

Presented at regional meeting...with high praise...

I try to teach to success levels...

One can always come back for more specific tips and tricks.

Independent Assignment

Enter your question here...

S_{ubject}

SH
subheading

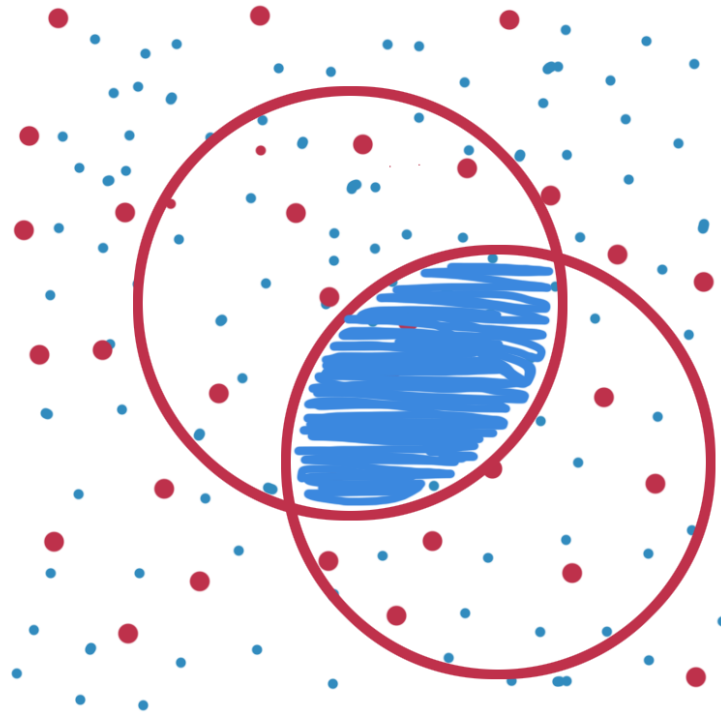
These are pieces that you
have to work with.

Filters will be types of
articles, or age of patient,
language etc.

F_{ilter}

Sketch your proposed search strategy

**This is just an example you may use different combinations
Label your sketch using terms you are searching with.**



Using the terms that you have identified, locate articles that may answer your topic.

Do this search ONLY in PubMed using Mesh headings.

Compare your terms with the MeSH terms you have located...sometimes you may need to locate synonyms.

My terms

MeSH headings that I used

Take screen shots of your strategy.

| | | |
|---------------------|---|-----------------------|
| Add | Search "Hispanic Americans"[Mesh] | 26712 |
| Add | Search "Hypertension/prevention and control"[Majr] | 5157 |
| Add | Search "Diabetes Mellitus/prevention and control"[Majr] | 13245 |

Copy 3-5 citations that answered your question.

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National Institutes of Health

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Article types: Clinical Trial, Guideline, Meta-Analysis, Practice Guideline, Randomized Controlled Trial, Review, Customize ...
Text availability: Abstract, Free full text, Full text
PubMed Commons: Reader comments, Trending articles
Publication dates: 5 years, 10 years, Custom range...
Species: Humans

Format: Summary ▾ Sort by: Most Recent ▾ Per page: 200 ▾ Send to ▾ Filters: Manage ▾

Search results
Items: 177

- ☐ [Adaptation and Feasibility Study of a Digital Health Program to Prevent Diabetes among Low-Income Patients: Results from a Partnership between a Digital Health Company and an Academic Research Team.](#)
Fontil V, McDermott K, Tieu L, Rios C, Gibson E, Sweet CC, Payne M, Lyles CR.
J Diabetes Res. 2016;2016:8472391. Epub 2016 Oct 27.
PMID: 27868070
- ☐ [Linking High Risk Postpartum Women with a Technology Enabled Health Coaching Program to Reduce Diabetes Risk and Improve Wellbeing: Program Description, Case Studies, and Recommendations for Community Health Coaching Programs.](#)
Athavale P, Thomas M, Delgadillo-Duenas AT, Leong K, Najmabadi A, Harleman E, Rios C, Quan J, Soria C, Handley MA.
J Diabetes Res. 2016;2016:4353956. Epub 2016 Oct 26.
PMID: 27830157
- ☐ [Diabetes Prevention Interventions in Latin American Countries: a Scoping Review.](#)

Find related
Database: S
Find items
Search data
(\"Diabetes control\"[Majr] OR \"Hypertension control\"[Majr] OR \"Hispanic Americans\"[Mesh])
Search

Create Word Cloud

- Using words in the abstract only (of the best article) create a Word Cloud.



<https://www.wordclouds.com/>

Results

- Briefly describe if your results appropriately answered the question you were asking.

The NEW version will also work...
after this exercise the student will understand how the pieces fit together



(diabetes[MeSH Terms]) AND (hispanic americans[MeSH Terms])



Search

[Advanced search](#) [Create alert](#)



Filters (1)



Timeline

Sort by

Best match

Most recent



Save

Email



69 results

- ☐ 1 [Preventing **diabetes** in obese Latino youth with prediabetes: a study protocol for a randomized controlled trial.](#)

Soltero EG, et al. *BMC Public Health* 2017 - *Clinical Trial*. PMID 28302101

BACKGROUND: Obese Latino adolescents are disproportionately impacted by insulin resistance and type 2 **diabetes**. Prediabetes is an intermediate stage in the pathogenesis of type 2 **diabetes** and

Thank you!

If you have any questions please contact Margaret Vugrin at

margaret.vugrin@ttuhsc.edu or 806-743-2241